

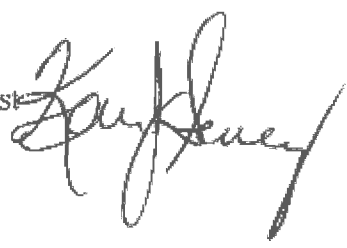
EFFICACY REVIEW
Mark Suarez, Entomologist - IB

DATE: 16 August 2004

EPA REG. NUMBER: 239-2681

PRODUCT NAME: Ortho Fire Ant Killer

REGISTRANT: The Ortho Business Group

SECONDARY REVIEWER: Kevin Sweeney, Senior Entomologist 

PM: George LaRocca, PM13

REVIEWER: Bewanda Alexander

DECISION #.: 339771

DP BARCODE: 299253

ACTION: 305; Data Required; Technical

ACTIVE INGREDIENT(S): 128825; Bifenthrin.....0.2%

TYPE: Granular broadcast treatment

OPPTS GUIDELINE(S): 810.1000
810.3000
810.3100

MRID: 46180801

GLP ?: No.

SITES: Residential Lawns

PESTS: *Solenopsis invicta*, Red Imported Fire Ant

APPLICATION RATE: 0.2 lb. ai/acre

STUDY SUMMARIES:

The study was designed as an RBD at two field sites, Eagle Lake and Bryan, TX. Each of these field sites had four treatment replicates. The former had 4 control replicates; the latter had 3 control replicates. Pretreatment fire ant population numbers (active mounds) were recorded. Subsequently, 0.2 lbs. AI/acre were applied to treatment plots. The population of *S. invicta* mounds was surveyed at 2 weeks, 1, 2, 5, and 12 months (Eagle Lake) or 1, 3, 6.5, and 12 months (Bryan). (See Tables 1a and b for

Results.) These data indicate control (>90 % population reduction) for at least six months with suppression (>80% population reduction) for a year at both study sites.

Time Treatment	Pre-treatment	2 Weeks	1 Month	2 Months	5 Months	12 Months
Bifenthrin	14	0.8	0.8	0.3	0	1.25
Control	12.8	15	12.5	11	13.3	9.75
Population Reduction (%)	Treatment	94.3	94.3	97.8	100	91.1
	Control	N/A	2.3	14.1	N/A	23.8

Table 1a. Eagle Lake, TX *S. invicta* study results.

Treatment	Pre-treatment	4 Weeks	3 Months	6.5 Months	12 Months
Bifenthrin	15.3	0	0	0.5	1.3
Control	15.8	14.5	6.8	9.3	8.3
Population Reduction (%)	Treatment	100	100	96.7	91.5
	Control	8.23	57.0	41.1	47.5

Table 1b. Bryan, TX *S. invicta* study results.

ENTOMOLOGIST'S COMMENTS AND RECOMMENDATIONS:

Generally, this study supports the registrants' desire to increase control claims from 4 months to 6 months ($\geq 90\%$ population reduction for 6 months), with suppression claims to 1 year ($\geq 80\%$ population reduction for study duration). The high population decline noted in the Bryan control population makes the interpretation of the data problematic. The observed treatment plot population decline is likely to be tied to the factors influencing the control population decline. Thus, the observed efficacy is likely to be an artificially inflated estimate of population reduction. In addition, these data are deficient on the basis of lack of geographic variation in test sites. The [OPPTS Guideline 810.3100(e) stipulates study sites in several states within the recognized *S. invicta* species distribution, "usually three such sites". Bryan and Eagle Lake, TX are approximately 60 miles apart. A more geographically varied study would allow for better assessment of efficacy across the imported fire ant distribution.

In accordance with the 810.3100 guideline, it is recommended that the increased residual activity claims of the label be amended to read 6 months of fire ant control and 12 months of suppression. This acceptance should be conditional, with a requirement of the submission of corroborating data for study sites in at least two additional states (e.g., Florida and Alabama).

Pharaoh ant, *Monomorium pharaonis* claims should be removed from the label, as these are public health pests requiring species specific testing. There are no data provided to substantiate the inclusion of this species. Additionally, the label claim "This treatment will kill the queen within 24 hours of application." is not substantiated, and should be removed.